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MIL-STD-2045-17506

29 July 1994

# MILITARY STANDARD

Information Technology

DOD Standardized Profile

Internet Remote Login Profile for DOD Communications  
(Telnet)



AMSC N/A

AREA DCPS

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# **MIL-STD 2045-17506: 29 July 94**

## **Foreword**

This military standard is approved for use by all Departments and Agencies of the Department of Defense (DOD).

Beneficial comments (recommendations, additions, deletions) and any pertinent data that may be of use in improving this MIL-STD should be addressed to the:

Joint Interoperability and Engineering Organization (JIEO)

ATTN: TBBF

Fort Monmouth, New Jersey 07703-5613

by using the Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this MIL-STD or by memorandum.

This MIL-STD 2045-17506 series DOD Standardized Profile (DSP) is a functional standard produced by the Data Communications Protocol Standards (DCPS) Technical Management Panel (DTMP). DTMP functional standards are functional groupings of base standards. Referenced base standards may be commercial, DOD or de facto standards, although International Standards (produced by ISO, CCITT, and other bodies) are preferred when possible.

This Defense Standardized Profile (DSP) is a functional DOD Data Communications Protocol Standard (DCPS) produced by the DCPS Technical Management Panel (DTMP). The MIL-STD-2045 document series was established within the DCPS Standardization Area to allow for the enhancement of commercial standards or the development of standards that are unique to DOD.

The MIL-STD-2045-10000 series, MIL-STD-2045-10000 to MIL-STD-2045-19999 inclusive, will be used to describe how DOD will implement commercial, international, national, federal, or military standards within the functional profile concept to provide required network services. The Government Open Systems Interconnection Profiles (GOSIP) will serve as the base for developing the 10000 series with DOD enhancements, unique military standards, and interim standards being used only when necessary.

The MIL-STD-2045-20000 series, MIL-STD-2045-20000 to MIL-STD-2045-29999 inclusive, will be used to describe DOD enhancements and extensions to existing commercial, international, national, or federal standards.

The MIL-STD-2045-30000 series, MIL-STD-2045-30000 to MIL-STD-2045-39999 inclusive, will be used to describe protocols and services unique to DOD that will not be supported by commercial, international, national, or federal standards.

The MIL-STD-2045-40000 series, MIL-STD-2045-40000 to MIL-STD-2045-49999 inclusive, will be used to document interim standards. Interim standards document protocols and services needed by DOD until these protocols and services are described in either a GOSIP or a MIL-STD-2045-20000 or -30000 series standard.

The MIL-STD-2045-50000 series, MIL-STD-2045-50000 to MIL-STD-2045-59999 inclusive, will be used to describe how DOD will implement commercial, international, national, federal, or military standards within the functional profile concept to provide required network services. The Government Open Systems Interconnection Profiles (GOSIP) will serve as the base

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for developing the 50000 series with DOD enhancements, unique military standards, and interim standards being used only when necessary. The difference between MIL-STD-2045-10000 series and the MIL-STD-2045-50000 series is that the 50000 series are interim profiles

Specific details and instructions for establishing a MIL-STD-2045 document, as well as profile development guidelines, are documented in MIL-HDBK-829. DTMP Working Groups shall be responsible for DSP development and informal Service or Agency coordination; the DTMP Plenary shall be responsible for final review and approval.

This document is part of a set of interim DOD data communications protocol profiles based on the Internet protocol suite and is intended to support the interoperability of DOD communication networks, including connectivity with the Defense Data Network (DDN).

This part of MIL-STD 2045-17506 contains one normative annex and one informative annex:

Annex A (normative)	DSPICS Requirements List (DPRL).
Annex B (information)	Concluding Material.

For DOD acquisition purposes, where such differences exist, this DSP shall be the controlling document.

The Preparing Activity for this standard is the Data Communication Protocol Standards Technical Management Panel (DTMP). The custodians for the document are identified in the Defense Standardization Program, "Standardization Directory (SD-1)" and are classified in the Federal Supply Classification (FSC) system under Data Communication Protocol Standards (DCPS). Additional information can be obtained from:

Joint Interoperability and Engineering Organization  
ATTN: DTMP Chairman  
Ft. Monmouth, New Jersey 07703-5613

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## **Introduction**

This DOD Standardized Profile (DSP) is defined within the context of functional standardization, in accordance with the principles specified by ISO/IEC TR 10000, "Framework and Taxonomy of International Standardized Profiles" and MIL-HDBK-829. The context of functional standardization is one part of the overall field of Information Technology (IT) standardization activities - covering base standards, profiles, and registration mechanisms. A profile defines a combination of base standards that collectively perform a specific well-defined IT function. Profiles standardize the use of options and other variations in the base standards to promote system interoperability and to provide a basis for the development of uniform, internationally recognized system tests.

One of the most important roles for a DSP is to serve as the basis for the development of recognized tests. DSPs also guide implementors in developing systems that fit the needs of the US Department of Defense (DoD). DSPs are produced not simply to 'legitimize' a particular choice of base standards and options, but to promote real system interoperability. The development and widespread acceptance of tests based on this and other DSPs is crucial to the successful realization of this goal.

The base standards of this MIL-STD include Request For Comments (RFCs) designated as Official Internet Architecture Board (IAB) standards, and other RFCs.

The specifications in this part of DOD Standardized Profile (DSP) 2045-17506 cover Telnet. The current technical content of this document has been derived wherever possible from Internet Architecture Board (IAB) Standard (STD) 8. This document must be combined with IAB STD 8 (RFC 855 : May 1983, Telnet Option Specifications) and IAB STD 3 (RFC 1123: October 1989, Requirements for Internet Hosts-- Application and Support).

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## 1 Scope

### 1.1 General

This DOD Standardized Profile (DSP) 2045-17506 applies to the Telnet Standard.

### 1.2 Position within the taxonomy

This profile is classified as MIL-STD 2045-17506 in accordance with MIL-HDBK 829 .

### 1.3 Scenario

This DSP specifies the provisions of the Telnet Protocol. All commands (control characters) submitted by the user are

passed by the to the client TELNET process which then passes them to the reliable stream service provided by TCP, to the server TELNET

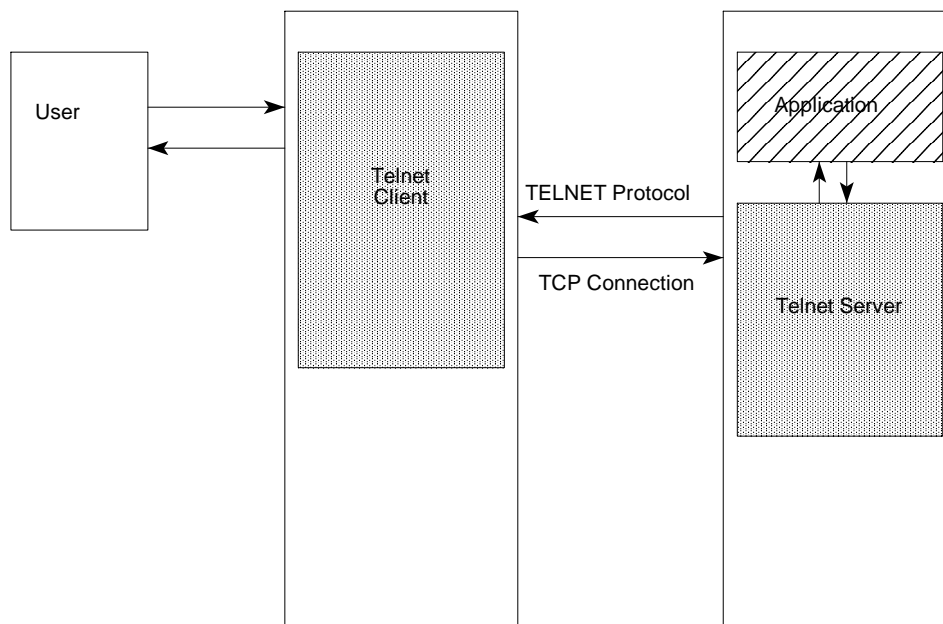


Figure 1. TELNET SCENARIO

## **2 References**

The following documents contain provisions which, through reference in this text, constitute provision of this part of MIL-STD 2045-17506. At the time of publication, the editions indicated were valid. All documents are subject to revision, and parties to agreements based on this part of MIL-STD 2045-17506 are warned against automatically applying any more recent editions of the documents listed below, since the nature of references made by MIL-STDs to such documents is that they may be specific to a particular edition.

### **2.1 Government Documents**

**2.1.1 Specifications, standards, and handbooks.** The following specifications, standards, and handbooks form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those listed in the issue of the Department of Defense Index of Specifications and Standards (DODISS) and supplement thereto, cited in the solicitation.

MIL-HDBK 829: July 1994, *Guidelines for DOD Standardized Profiles*.

DOD activities may obtain copies of DOD directives through their own publication channels or from the DOD Single Stock Point, Standardization Document Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia, PA 19111-5094. Other federal agencies and the public may purchase copies from the U.S. Department of Commerce, National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161.

Copies of Federal Information Processing Standards (FIPS) are available to Department of Defense activities from the Commanding Officer, Naval Publications and Forms Center, 5801 Tabor Avenue, Philadelphia, PA 19120-5099. Others must request copies of FIPS from the National Technical Information Services, 5285 Port Royal, Springfield, VA 22161-2171.

### **2.1.2 Other Government documents, drawings, and publications**

The following other Government documents, drawings, and publications form a part of this document to the extent specified herein. Unless otherwise specified, the issues are those cited in the solicitation.

None

### **2.2 Non-Government Publications**

The following documents form a part of this document to the extent specified herein. Unless otherwise specified, the issues of the documents which are DOD adopted are those listed in the issue of the DODISS cited in the solicitation.

## 2.2.1 Profiles

None

## 2.2.2 Base Standards

IAB STD 8	(RFC 855: May 1983, <i>Telnet Option Specifications</i> ). (RFC 854: May 1983, <i>Telnet Protocol Specifications</i> )
IAB STD 3	(RFC 1123 : October 1989, <i>Requirements for Internet Hosts -- Application and Support</i> ).
RFC 1205	1988, <i>5250 Telnet Interface</i>
RFC 1184	1990, <i>Telnet Linemode Option</i>
RFC 1091	1990, <i>Telnet Terminal-Type Option</i>
RFC 1080	1988, <i>Telnet Remote Control Option</i>
RFC 1079	1988, <i>Telnet Terminal Speed Option</i>
RFC 1073	1988, <i>Telnet Window Size Option</i>
RFC 1053	1988, <i>Telnet X.3 Pad Option</i>
RFC 1041	1988, <i>Telnet 3270 Regime Option</i>
RFC 1013	1987, <i>X Window System Protocol version 11</i>
RFC 946	1985, <i>Telnet Terminal Location Window Option</i>
RFC 933	1985, <i>Output marking Telnet option</i>
RFC 927	1984 <i>TACACS user Identification Telnet Option</i>
RFC 885	1983, <i>Telnet End of Record Option</i>
RFC 861	1983, <i>Telnet Extended Options: List Option</i>
RFC 860	1983, <i>Telnet Timing Mark Option</i>
RFC 859	1983, <i>Telnet Status Option</i>
RFC 858	1983, <i>Suppress Go Ahead Option</i>
RFC 857	1983, <i>Telnet Echo Option</i>
RFC 856	1983, <i>Telnet Binary Transmission Option</i>
RFC 779	1981, <i>Telnet Send-Location Option</i>
RFC 749	1978, <i>Telnet SUPDUP Output Option</i>
RFC 736	1977, <i>Telnet SUPDUP Option</i>
RFC 735	1977, <i>Revised Telnet Byte Status Option</i>
RFC 734	1977, <i>Telnet SUPDUP Protocol</i>
RFC 732	1977, <i>Telnet Data Entry Terminal Option</i>
RFC 727	1977, <i>Telnet Logout Option</i>
RFC 726	1977, <i>Remote Controlled Transmission and Echoing Telnet Option.</i>
RFC 698	1975, <i>Telnet Extended ASCII Option</i>
RFC 658	1974, <i>Telnet Output linefeed disposition</i>
RFC 657	1974, <i>Telnet Vertical Tab Disposition Option</i>

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RFC 656	<i>1974, Telnet Vertical Tabstops Option</i>
RFC 655	<i>1974, Telnet Output Formfeed Disposition Option</i>
RFC 654	<i>1974, Telnet Output Horizontal Tab Disposition Option</i>
RFC 653	<i>1974, Telnet Output Horizontal Tabstops Option</i>
RFC 652	<i>1974, Telnet Output Carriage Return Disposition Option</i>

### 2.3 Order of precedence

In the event of a conflict between the text of this document and the references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

### 3 Definitions

**Internet Architecture Board (IAB) Standards (STD):** The IAB has established this as an official standard protocol for the Internet. These protocols are assigned STD numbers.

**Request For Comments (RFCs):** RFC are the working notes of the "Network Working Group", that is the Internet research and development community.

Note: All standards are published as RFCs, but not all RFCs specify standards.

### 4 Abbreviations and Acronyms

ABOR	Abort
ACCT	Account
ALLO	Allocate
APPE	Append
ASCII	American National Standard Code for Information Interchange
CDUP	Change to Parent Directory
CWD	Change Working Directory
DCPS	Data Communications Protocol Standards
DELE	Delete
DET	Data Entry Terminal
DTMP	DCPS Technical Management Panel
IAB	Internet Architecture Board
MKD	Make Directory
NLST	Name List
NVT	Network Virtual Terminal

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PASS	Password
PASV	Passive
PWD	Print Working Directory
REIN	Reinitialize
REST	Restart
RETR	Retrieve
RFC	Request For Comments
RMD	Remove Directory
RNFR	Rename From
RNTO	Rename To
SB	Subnegotiation
SE	End of Subnegotiation
SMNT	Structure Mount
STAT	Status
STD	Standard
STOR	Store
STOU	Store Unique
STRU	Structure
SYST	System
TCP	Transmission Control Protocol

## 5 Requirements

### 5.1 General Requirements

A conforming implementation of this profile shall be unconditionally compliant and therefore, shall satisfy all the "MUST" and all the "SHOULD" requirements of the reference base standards and shall not implement any capability that has been identified by the base standards as "SHOULD NOT". Implementations claiming conformance to this part of DSP 2045-17506 shall support the following procedures as stated.

#### 5.1.1 Network Virtual Terminal Functions

There are no additional requirements to the data transfer functions as specified in RFC 854 and RFC 1123 section 3.2

#### 5.1.2 Terminal Type Options

Implementations claiming conformance to this part of DSP-2045-17506 shall support the terminal type options as stated in RFC 1091. The originator must use the terminal type names that are defined in RFC 1340, *Assigned Numbers* if they are listed for the terminal in use. The recipient must accept any names that are presented and may not reject

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names not listed in RFC 1091.

### **5.1.3 Transmission of Data**

There are no additional requirements to the data transfer functions as specified in RFC 854 and RFC 1123, sections 3.2.3 and 3.5.

### **5.1.4 Accumulation of Data**

There are no additional requirements to the data transfer functions as specified in RFC 854 and RFC 1123, sections 3.1, 3.2 and 3.5.

### **5.1.5 Representation of control Functions**

There are no additional requirements to the Representation of control functions as specified in RFC 854 and RFC 1123 sections 3.2.3 and 3.5.

### **5.1.6 Telnet Command Requirement**

There are no additional requirements to the Telnet Command Requirements as specified in RFC 854 and RFC 1123 Section 3.2.5 and 3.5.

### **5.1.7 Connection Establishment**

There are no additional requirements to the connection establishment requirements as specified in RFC 854 and RFC 1123 Section 3.5.

### **5.1.8 Negotiated Options**

There are no additional requirements to Option Negotiation as stated in RFC 854 and RFC 1123, sections 3.2.1, 3.2.7, 3.2.8, 3.3.3, 3.3.4, and 3.5.

### **5.1.9 Standard Representation Of Control Functions**

There are no additional requirements to the control functions as specified in RFC 854 and RFC 1123 section 3.2.3.

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### **5.1.10 Synch Signal**

There are no additional requirements to the control functions as specified in RFC 854 and RFC 1123 section 3.2.4

### **5.1.11 End- of- Line Conventions (EOL)**

There are no additional requirements. The requirements for EOL are described in RFC 854 and clarified in RFC 1123 section 3.3.

## **5.2 Conformance Requirements**

Implementations claiming conformance to this DSP shall support the following.

### **5.2.1 Negotiation Codes**

There are no additional requirements to the Negotiation Codes as specified in RFC 854 and RFC 1123 sections 3.2 , 3.3 and 3.5.

### **5.2.2 Telnet Option Codes**

The RFCs listed under each option detail the specific option addressed. These RFCs should be used in conjunction with RFC 854, RFC 855 and RFC 1123.

#### **5.2.2.1 Binary Transmission**

The Telnet Binary option requirements are stated in RFC-856 and RFC 1123 section 3.2.7. The following discussion is provided for clarification.

If an IAC is followed by a command code, then it shall be interpreted as an embedded command. If an IAC escape character is part of the data stream, it should be doubled in order to be interpreted as data.

#### **5.2.2.2 Echo**

There are no additional requirements to the Echo option as specified in RFC 854 and RFC 857.

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### **5.2.2.3 Reconnection**

There are no additional requirements to the Reconnection option as specified in RFC 854 and RFC 1123 sections 3.4.3 and 3.4.4

### **5.2.2.4 Suppress Go Ahead**

There are no additional requirements to the Suppress Go Ahead option as specified in RFC 854 and RFC 857.

### **5.2.2.5 Approximate Message Size Negotiation**

There are no additional requirements to the Approximate Message Size Negotiation option as specified in RFC 855 .

### **5.2.2.6 Status**

There are no additional requirements to the Status option as specified in RFC 859 .

### **5.2.2.7 Timing Mark**

There are no additional requirements to the Timing Mark option as specified in RFC 860 .

### **5.2.2.8 Remote Controlled Transmission and Echoing Telnet Option**

There are no additional requirements to the Remote Controlled Transmission and echo option as specified in RFC 726

### **5.2.2.9 Output Carriage Return**

There are no additional requirements to the disposition of the Output Carriage as specified in RFC 652 .

### **5.2.2.10 Output Horizontal Tabstops Option**

There are no additional requirements to the disposition of the **Output Horizontal Tabstops Option** as specified in RFC 653 .

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### **5.2.2.11 Output Horizontal Tab Disposition**

There are no additional requirements to the output horizontal tab stops option as specified in RFC 654 .

### **5.2.2.12 Output Formfeed Disposition**

There are no additional requirements to the output formfeed disposition option as specified in RFC 655 .

### **5.2.2.13 Output Vertical Tabstops**

There are no additional requirements to the **Output Vertical Tabstops** option as specified in RFC 656 .

### **5.2.2.14 Output Vertical Tab Disposition**

There are no additional requirements to the **Output Vertical Tab Disposition** option as specified in RFC 657

### **5.2.2.15 Output Linefeed Disposition**

There are no additional requirements to the **Output Linefeed Disposition** option as specified in RFC 658.

### **5.2.2.16 Extended ASCII**

There are no additional requirements to the **Extended ASCII** option as specified in RFC 698 .

### **5.2.2.17 Logout**

There are no additional requirements to the Logout option as specified in RFC 727.

### **5.2.2.18 Byte Macro**

There are no additional requirements to the **Byte Macro** option as specified in RFC 735 .

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### **5.2.1.19 Data Entry Terminal**

There are no additional requirements to the Data Entry Terminal option as specified in RFC 732 and RFC 1123 sections 3.3.2 and 3.5 .

### **5.2.2.20 SUPDUP**

There are no additional requirements to the SUPDUP option as specified in RFC 736 and RFC 1123 sections 3.3.2 and 3.5.

### **5.2.1.21 SUPDUP Output**

There are no additional requirements to the SUPDUP output option as specified in RFC 749 .

### **5.2.2.22 Send Location**

There are no additional requirements to the Send Location option as specified in RFC 779 .

### **5.2.2.23 Terminal Type**

There are no additional requirements to the Terminal Type option as specified in RFC 1091 and RFC 1123 section 3.5.

### **5.2.2.24 End of Record**

There are no additional requirements to the End of Record option as specified in RFC 885 .

### **5.2.2.25 TACACS User Identification**

There are no additional requirements to the TACACS User Identification option as specified in RFC 927 .

### **5.2.2.26 Output Marking**

There are no additional requirements to the Output Marking option as specified in RFC 933 .

**5.2.2.27      Terminal Location Number**

There are no additional requirements to the Terminal Location Number option as specified in RFC 946 .

**5.2.2.28      3270 Regime**

There are no additional requirements to the 3270 Regime option as specified in RFC 1041.

**5.2.2.29      X.3 PAD**

There are no additional requirements to the X.3 PAD option as specified in RFC 1053.

**5.2.2.30      Window Size**

There are no additional requirements to the Window Size option as specified in RFC 1073.

**5.2.2.31      Line Mode Option**

There are no additional requirements to the Line Mode option as specified in RFC 1184.

**5.2.3      Command Codes**

There are no additional requirements to the Command Codes as specified in RFC 856 and RFC 1123 sections 3.4.2 and 3.5.

## ANNEX A (normative)

### DSPICS REQUIREMENTS LIST (DPRL)

#### A.1 Introduction

This document provides the DOD Standardized Profile Implementation Conformance Statements (DSPICS) Requirements List (DPRL) for implementations of the DOD Standardized Profile (DSP) 2045-17503. The DSPICS for an implementation is generated by completing the DPRL in accordance with the following instructions.

An implementation shall satisfy the mandatory conformance requirements of the base standards referenced in this profile.

An implementation's completed DPRL is called the DSPICS. The DSPICS states which capabilities and options of the protocol have been implemented. The following can use the DSPICS:

- (a) the protocol implementor, as a checklist to reduce the risk of failure to conform to the standard through oversight.
- (b) the supplier and acquirer or potential acquirer of the implementation, as a detailed indication of the capabilities of the implementation, stated relative to the common basis for understanding provided by the standard DSPICS proforma.
- (c) the user or potential user of the implementation, as a basis for initially checking the possibility of inter-working with another implementation (note that, while inter-working can never be guaranteed, failure to inter-network can often be predicted from incompatible DSPICSs).
- (d) a protocol tester, as the basis for selecting appropriate tests against which to assess the claim for conformance of the implementation.

##### A.1.1 Notation

The following notations and symbols from MIL-HDBK 829, which references ISO/IEC TR 10000-1 and -2, are used in the DPRL to indicate the status of features:

###### Status Symbols

- m - mandatory
- m.<n> - support of every item of the group labeled by the same numeral <n> required, but only one is active at a time
- o - optional

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o.<n>	- optional, but support of at least one of the group of options labeled by the same numeral <n> is required
c	- conditional
-	- non-applicable (i.e. logically impossible in the scope of the profile)
x	- excluded or prohibited
i	- out of scope of profile (left as an implementation choice)

In addition, the symbol "●" is used to indicate an option whose status is not constrained by the profile (status in the base standard). The o.<n> notation is used to show a set of selectable options (i.e., one or more of the set must be implemented) with the same identifier <n>.

Two character combinations may be used for dynamic conformance requirements. In this case, the first character refers to the static (implementation) status, and the second refers to the dynamic (use); thus "mo" means "mandatory to be implemented, optional to be used."

### Notations for Conditional Status

The following predicate notations are used:

<predicate>:: This notation introduces a group of items, all of which are conditional on <predicate>.

<predicate>: This notation introduces a single item which is conditional on <predicate>.

In each case, the predicate may identify a profile feature, or a boolean combination of predicates. ("^" is the symbol for logical negation.)

<index>: This predicate symbol means that the status following it applies only when the DPICS states that the features identified by the index are supported. In the simplest case, <index> is the identifying tag of a single DPICS items. The symbol <index> also may be a Boolean expression composed of several indices.

<index>:: When this group predicate is true, the associated clause should be completed.

### Notations used in the Protocol Feature Column

<r> Symbol used to denote the receiving system.

<t> Symbol used to denote the transmitting system.

### Support Column Symbols

The support of every item as claimed by the implementor is stated by circling the appropriate answer (Yes, No, or N/A) in the support column:

Yes	Supported by the implementation.
No	Not supported by the implementation.
N/A	Not applicable.

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Base standard requirements are shown using the equivalent notations in upper case (e.g., M, O, X).

### A.1.2 Footnotes

Footnotes to the proforma are indicated by superscript numerals. The footnote appears on the page of the first occurrence of the numeral. Subsequent occurrences of a numeral refer to the footnote of the first occurrence.

### A.1.3 Instructions for Completing the DPRL

A DSP implementor shows the extent of compliance to a DSP by completing the DPRL; that is, compliance to all mandatory requirements and the options that are not supported are shown. The resulting completed DPRL is called a DSPICS. Where this profile refines the features of the base standards, the requirements expressed in this DPRL shall be applied (as indicated in DPRL items with no "Profile Support" column) to constrain the allowable responses in the base standard PICS proforma. When this profile makes additional requirements, the "Profile Support" column for such DPRLs shall be completed. In this column, each response shall be selected either from the indicated set of responses, or it shall comprise one or more parameter values as requested. If a conditional requirement is inapplicable, use the Not Applicable (NA) choice. If a mandatory requirement is not satisfied, exception information must be supplied by entering a reference Xi, where i is a unique identifier, to an accompanying rationale for the noncompliance. When the profile requirement is expressed as a two-character combination (as defined in A.1.1 above), the response shall address each element of the requirement; e.g., for the requirement "mo," the possible compliant responses are "yy" or "yn."

## A.2 Standards Referenced

This profile specifies the provision of the Telnet as specified in IAB STD 8 (RFC 855 : May 1983, Telnet Option Specifications) and (RFC 854: May 1983, Telnet Protocol Specification).

## A.3 DSPICS Requirements List

### A.3.1 General Information

#### A.3.1.1 Implementation Identification

Supplier	
Contact point for queries about the profile	
Implementation Name(s) and Version(s)	
Date of statement	

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Other Information: Machine Name, Operating Systems, System Name	
---	--

### A.3.2 NVT Printer Controls

Item	Description	ASCII Code	Profile		Support		Notes/ References
			Send	Reply	Send	Reply	
1	Bell, to sound an audible signal	7	m	m	Yes	Yes	RFC 854
2	Backspace, to move one space left	8	m	m	Yes	Yes	RFC 854
3	Line Feed	10	m	m	Yes	Yes	RFC 854
4	Vertical Tab	11	m	m	yes	yes	RFC 854
5	Form Feed (move to top of next page)	12	m	m	yes	yes	RFC 854
6	Carriage return	13	m	m	yes	yes	RFC 854
7	Null (for filler time)	0	m	m	yes	yes	RFC 854
8	Horizontal tab	9	m	m	yes	yes	RFC 854

### A.3.3 Telnet Negotiation Codes

Item	Request	Code	Profile		Support		Notes/ References
			Send	Reply	Send	Reply	
1	Will	251	m	m	Yes	Yes	RFC 854, 855
2	WON'T	252	m	m	Yes	Yes	RFC 854, 855
3	DO	253	m	m	yes	yes	RFC 854, 855
4	SB Subnegotiation	250	m	m	yes	yes	RFC 854, 855
5	SE End of subnegotiation	240	m	m	yes	yes	RFC 854, 855

### A.3.4 Telnet Command Codes

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Item	Command	Acronym	Code	Profile		Support		Notes\ References
				Send	Reply	Send	Reply	
1	Break	BRK	243	m	m	Yes	Yes	RFC 854
2	Interrupt Process	IP	244	m	m	Yes	Yes	RFC 854
3	Abort Output	AO	245	m	m	Yes	Yes	RFC 854
4	Are You There	AYT	246	m	m	Yes	Yes	RFC 854
5	Erase Character	EC	247	m	m	Yes	Yes	RFC 854
6	Erase Line	EL	248	m	m	Yes	Yes	RFC 854
7	Go Ahead	GA	249	m	m	Yes	Yes	RFC 854
8	DM Mark	DM	242	m	m	Yes	Yes	RFC 854
9	Interrupt As Command	IAC	255	m	m	Yes	Yes	RFC 854

### A.3.5 Telnet Option Codes

Item	Command	Profile		Support		Notes/ References
		Send	Reply	Send	Reply	
1	Binary Transmission	m	m	yes	Yes	RFC 856, RFC 1123
2	Echo	m	m	yes	no	RFC 854, RFC 857
3	Suppress Go Ahead	m	m	yes	Yes	RFC 854, RFC 857
5	Approximate Message Size Negotiation	m	m	yes	Yes	RFC 1123
6	Status	m	m	yes	Yes	RFC 859
7	Timing Mark	m	m	yes	Yes	RFC 860
8	Remote Controlled Transmission and Echo	m	m	yes	Yes	RFC 726
9	Output Carriage Return Disposition	m	m	yes	Yes	RFC 652
10	Output Form Feed Disposition	m	m	yes	Yes	RFC 653
11	Output Horizontal Tabstops	m	m	yes	Yes	RFC 654
12	Output Horizontal Tab Disposition	m	m	yes	Yes	RFC 655
13	Output Vertical Tabstops	m	m	yes	Yes	RFC 656
14	Output Vertical Tab Disposition	m	m	yes	Yes	RFC 657
15	Output Line Feed Disposition	m	m	yes	Yes	RFC 658
16	Extended ASCII	m	m	yes	Yes	RFC 698

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Item	Command	Profile		Support		Notes/ References
		Send	Reply	Send	Reply	
17	Logout	m	m	yes	Yes	RFC 727
18	Byte Macro	m	m	yes	Yes	RFC 735
19	Data Entry Terminal	m	m	yes	Yes	RFC 732
20	SUPDUP	m	m	yes	Yes	RFC 736
21	SUPDUP Output	m	m	yes	Yes	RFC 749
22	Send Location	m	m	yes	Yes	RFC 779
23	Terminal Type	m	m	yes	Yes	RFC 930
24	End of Record	m	m	yes	Yes	RFC 855
25	TACACS user Identification	m	m	yes	Yes	RFC 927
26	Output Marking	m	m	yes	Yes	RFC 933
27	Terminal Location Number	m	m	yes	Yes	RFC 946
28	3270 Regime	m	m	yes	Yes	RFC 1041
29	X.3 PAD	m	m	yes	Yes	RFC 1053
30	Window size	m	m	yes	yes	RFC 1073
31	LINEMODE	m	m	yes	Yes	RFC 1184

1. The Echo option must not be enabled in both directions and a Client should never send a WILL ECHO

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## ANNEX B (informative) CONCLUDING MATERIAL

### B.1 Deviations from the Base Standards/Referenced profiles

This MIL-STD documents the Telnet protocol in the ISO/IEC TR 10000, "Framework and Taxonomy of International Standardized Profiles" and MIL-HDBK-829 format. This DSP does not deviate from the protocol as written in the RFC base standards.

The classification of the requirements in IAB STD 8 ,IAB STD 3 and RFC 1123 have been changed in the DSPICS to the following:

<u>RFC</u>	<u>MIL-STD</u>
MUST	Mandatory
SHOULD	Mandatory
MAY	Optional
SHOULD NOT	Prohibited
MUST NOT	Prohibited

### B.2 Subject Term (Keyword) Listing

DDN  
Internet  
Network  
Remote Login  
RFC  
Terminal Emulation  
TELNET

### B.3 Preparing Activity:

Defense Information Systems Agency (DISA) - DC  
Project: DCPS-0013

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### B.4 Reviewing Activity

Army	SC, PT
Air Force	13, 17, 29, 33, 90
DLA	DH
DMA	MP
DIA	DI
DOT	OST
NSA	NS
OASD	IQ, DO, IR
ODISC4 AC	
NAVY	EC, CH, ND, TD, OM
USMC	MC, CG

### B.5 Custodians

DISA:	DC
Army:	SC
Air Force:	90
Navy:	OM
DIA:	DI
NSA:	NS
USMC:	MC
DLA:	DH
Other:	Joint Staff/Architecture & Integration USSPACECOM

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1. DOCUMENT NUMBER

MIL-STD 2045-17506

2. DOCUMENT DATE (YYMMDD)

940729

3. DOCUMENT TITLE Information Technology - DOD Standardized Profile - Internet Remote Login Profile (Telnet)

4. NATURE OF CHANGE *(Identify paragraph number and include proposed rewrite, if possible. Attach extra sheets as needed.)*

5. REASON FOR RECOMMENDATION

6. SUBMITTER

a. NAME *(Last, First, Middle Initial)*

b. ORGANIZATION

c. ADDRESS *(Include Zip Code)*

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7. DATE SUBMITTED (YYMMDD)

(1) Commercial  
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8. PREPARING ACTIVITY **DEFENSE INFORMATION SYSTEMS AGENCY (DISA)**

a. NAME Rose D. Satz

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(1) Commercial 908-532-7732 (2) DSN 992-7732

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